

Introduction to the Minitrack: Health Care Data Management

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Health care usually involves a myriad of stakeholders, including patients, direct health care providers, researchers, managed care organizations, and third-party payers. These stakeholders often have considerable differences in objectives, concerns, priorities and constraints, making data management in health care organizations a challenging endeavor. The planning, management, and delivery of health care services include the manipulation of large amounts of information and the corresponding technologies are becoming increasingly embedded in all aspects of health care. The Health Care Data Management Minitrack focuses on the evolution of the database infrastructure required to handle clinical, managerial, and population-based data in the health care arena. The adoption of electronic commerce models in health care is making data management technologies even more critical. The ability to support both business-to-business and business-to-consumer efforts often rests on a foundation of database systems, along with standards and Web-deployment technologies to ensure connectivity.

This year, the six accepted papers deal with a cross section of data management topics. The first paper, "PLAN: A Framework and Specification Language with an Event-Condition-Action (ECA) Mechanism for Clinical Test Request Protocols" by Wu and Dube, focuses on the more clinical issues surrounding patient test plans. They define and apply a language for describing clinical test protocols at a general level, which are then instantiated for individual patients as specific characteristics are diagnosed. Testing protocols are an important part of the medical record and their effective management is a critical capability.

The second paper, "Data Integration Along the Healthcare Supply Chain: The Pharmaceutical Extranet Gateway Project" by McGrath and More, looks at inter-organizational linkages among Australian pharmaceutical organizations. In particular, the authors describe a

significant business-to-business e-commerce effort that links the major Australian wholesalers with many pharmaceutical suppliers. The initial project has been successful, with new initiatives that will move down the supply chain toward retail organizations and physicians.

The third paper, "On Supporting Medical Quality with Intelligent Data Mining" by Hognl, Stoyan, Muller, and Stuhlinger, investigates data mining techniques for medical quality management. The authors develop and apply a data mining tool using data from several Austrian clinics. Example medical quality questions are discussed and some specific results are shown using the clinic data.

The fourth paper, "Ascension Health Systems: Enterprise User Interface Approach to Organizational Data Management" by Sujitparapitaya, Janz, and Wetherbe, considers the problem of providing consistent data management functionality across a collection of information systems, including legacy systems. The paper presents a case study of a health care organization that grappled with this problem, the authors use the technology acceptance model (TAM) as a framework for data collection and analysis.

The fifth paper, "Health Care B2C Electronic Commerce: What Do Patients Consumers Want?," by Payton and Lucas, presents a preliminary study of health care consumers facing the selection of benefits packages. The interview results were used to construct a prototype Web site to support the selection process.

The sixth paper, "Consumer Decision Support Systems: A Health Care Case Study" by Berndt, investigates the use of data warehousing as a technology for business-to-consumer electronic commerce. Some architectural aspects of data warehouses are considered and an existing health care data warehouse is used to explore the types of dynamic reports that may be useful for health care consumers.